UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte MATHIAS LARSSON, CHARILAOS CHRISTOPOULOS,
MAGNUS JANDEL, DIEGO SANTA CRUZ, and TOURADJ EBRAHMI

_____

Appeal 2008-3118
Application 09/418,323
Technology Center 2100

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Decided: January 5, 2009

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Before LANCE LEONARD BARRY, ST. JOHN COURTENAY, III, and
CAROLYN D. THOMAS *Administrative Patent Judges.*

BARRY, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

    The Patent Examiner rejected claims 15-32. Claims 1-14 have been

cancelled. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We

have jurisdiction under 35 U.S.C. § 6(b). An oral hearing for this appeal
was conducted on December 11, 2008.

INVENTION

The invention at issue on appeal stores images as a set of
independently decodable units ("CUs") on a server. When a client requests a
certain part of the image, only data from the CUs that have not already been
transmitted are re-encoded, which saves processing time in the server.
(Spec. 2.)

ILLUSTRATIVE CLAIMS

15. A method of compressing an image at a server,
storing a compressed representation of the image at the server
and transmitting at least part of the compressed representation
of the image from the server to at least one client, the method
comprising:

transforming the image into a frequency domain to form
frequency domain coefficients;

after said transforming, subdividing the frequency
domain coefficients corresponding to the image into at least one
block, each block comprising at least one transformed
coefficient;

compressing, via entropy coding, at least a first block and
at least a second block into different independently decodable
coding units, respectively;

after said compressing, storing at least one of the first and
second coding units on the server;

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receiving a request at said server; and

responsive to the request, transmitting from the server to at least one client the coding unit(s) corresponding to the request so that upon receiving the request the coding unit(s) corresponding to the request are transmitted to the at least one client without the server having to employ further entropy encoding with respect thereto.

28. A client apparatus in a client-server system, the client apparatus comprising: means for identifying a region of interest of an image;

means for identifying a mask in a transform domain corresponding to said region of interest of the image;

means for identifying at least one of a plurality of independently decodable coding units which contains at least one transform coefficient needed to reconstruct the region of interest of the image, the independently decodable coding units being defined as objects compressed by using entropy coding; and

means for transmitting, from the client to at least one server, a request for said at least one identified independently decodable coding unit needed to reconstruct the region of interest of the image.

PRIOR ART

| Percival | US 5,991,816 | Nov. 23, 1999 |
| Keith | US 5,966,465 | Oct. 12, 1999 |

REJECTION

Claims 15-32 stand rejected under 35 U.S.C. § 103(a) as obvious over Percival and Keith.

<center>CLAIM GROUPING</center>

When the patentability of dependent claims is not argued separately, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986); *In re Sernaker*, 702 F.2d 989, 991 (Fed. Cir. 1983). Here, the Appellants do not argue separately the patentability of dependent claims 29-32. Therefore, the claims stand or fall with claim 28, from which they depend.

<center>ISSUE</center>

The Examiner makes the following findings.

> Percival discloses that image data is transformed (Percival, col. 6, lines 10-25) . . . once the image has been transformed and susceptible to additional compression techniques, it is stored in the memory of the image transmitting server (Percival, col. 8, lines 63-65), and the transformation process thus can be performed in advance prior to any requests being received (Percival, col. 9, lines 4-6).

(Ans. 11-12.) The Appellants argue that "any compression done in Percival is done *after* a request is received for that part of the image (thereby teaching away from the invention . . . ." (App. Br. 12.) They also argue that "[c]laim 15 . . . requires . . . upon a request for the information is received, transmit the information to at least one client without the server having to employ further entropy coding." (*Id.*) Therefore, the issue before us is whether the Appellants have shown error in the Examiner's findings that Percival compresses data before storing and transmitting the data as in claims 15 and 28 and that the reference transmits the data without further compression as in claim 15.

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LAW

The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently . . . ." *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999); *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995)).

FINDINGS OF FACT ("FFs")

1. Percival's "method of transferring digital image data over a communication link transforms and orders the data so that, as data is received by a receiving station, a low detail version of the image is immediately generated with later transmissions of data providing progressively greater detail in this image." (Abs., ll. 1-5.)

2. "FIG. 2 [of the reference] is a flow chart showing the step of a program executed by the image transmitting server of FIG. 1 in transforming and ordering image data for transmission to the receiving site . . . ." (Col. 4, ll. 20-24.)

3. "Referring to FIG. 2 in the first step of this process indicated by process block 60, data from a conventionally digitized image 30 is transformed." (Col. 6, ll. 10-12.)

4. "Several transformations may be used at this step, however, in the preferred embodiment, the transform selected is the Haar transform, which is

computationally efficient and provides a number of advantageous properties . . . ." (*Id.* ll. 35-39.)

5. As part of the Haar transform, the "value of the upper left hand corner transformed pixel 66 is significant because it represents effectively an average value of the image pixel 62 of the pixel block 68 and thus a compression of the image represented by the pixel block 68 by a factor of four." (Col. 7, ll. 24-27 (emphasis added).)

6. "Referring again to FIG. 2, once the image has been transformed as indicated by process block 60, it is stored in the memory of the image transmitting server 12." (Col. 8, ll. 63-65.)

7. "The transformation process thus can be performed in advance prior to any requests being received." (Col. 9, ll. 4-6.) "Referring again to FIG. 2, after transformation of the digitized image 30 as indicated by process block 60, the program operating the image transmitting server 12 awaits a request for an image as indicated at decision block 101." (*Id.* ll. 30-33.)

8. "[T]he transformation provides image data that is susceptible to additional compression techniques." (Col. 6, ll. 32-33.) As part of the aforementioned ordering image data for transmission to the receiving site, relatively sparse "bit planes may be easily compressed by techniques that tally continuous runs of zeros and transmit the tally rather than the zeros themselves." (Col. 10, ll. 1-6.) *See also* col. 12, ll. 47-49 ("[S]tep (b) of

transmitting, in order, the imaged data includes a step of compressing the ordered data prior to its transmission . . . .").

ANALYSIS

Percival teaches transforming image data (FF 3-4), which compresses the data (to some extent) (FF 5). The reference also teaches performing the compression transform before storing the data (FF 6) and before receiving any requests for the data (FF 7). Such teachings would have suggested the compressing of data before storing and transmitting the data as recited in claims 15 and 28.

As argued by the Appellants, however, claim 15 also requires transmitting the data without further compression. For its part, Percival performs additional compression before transmitting the data. (FF 8.)

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's finding that Percival compresses data before storing and transmitting the data as in claims 15 and 28. They have shown error, however, in the Examiner's findings that Percival transmits the data without further compression as in claim 15.

ORDER

We reverse the rejection of claims 15-27 but affirm the rejection of claims 28-31.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

msc

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